DILLON YUDELL LLP

ATTORNEYS AT LAW

USPTO FACSIMILE TRANSMITTAL SHEET

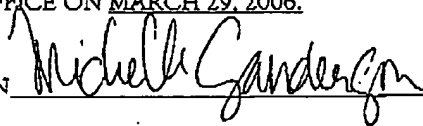| TO: Examiner Kelvin Y. Lin	FROM: Brian F. Russell, Reg. No. 40,796
ORGANIZATION: US Patent and Trademark Office	DATE: March 29, 2006
ART UNIT: 2142 CONFIRMATION NO.:	TOTAL NO. OF PAGES INCLUDING COVER: 14
FAX NUMBER: 571.273.8300	APPLICATION SERIAL NO: 09/963,737
ENCLOSED: Response to Notification of Non-Compliant Appeal Brief	ATTORNEY DOCKET NO: FR920000040US1

☒ URGENT   ☐ FOR REVIEW   ☐ PLEASE COMMENT   ☐ PLEASE REPLY   ☐ PLEASE RECYCLE

NOTES/COMMENTS:

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8(A)

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING FACSIMILE TRANSMITTED TO THE U.S. PATENT AND TRADEMARK OFFICE ON MARCH 29, 2006.

SIGNATURE OF MICHELLE SANDERSON _____

8911 N. CAPITAL OF TEXAS HWY., SUITE 2110, AUSTIN, TEXAS 78759
512.343.6116 (V) • 512.343.6446 (F) • DILLONYUDELL.COM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§ Attorney Docket No. FR920000040US1
	§
ERIC LEVY-ABEGNOLI ET AL.	§
	§
Serial No.: 09/963,737	§ Examiner: KELVIN Y. LIN
	§
Filed: SEPTEMBER 26, 2001	§ Art Unit: 2142
	§
For: SYSTEM AND METHOD FOR	§
IMPLEMENTING A CLUSTERED	§
LOAD BALANCER	§

REVISED APPEAL BRIEF SUBMITTED IN RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal - Patents
Commissioner for Patents
PO Box 1450
Alexandria, Virginia 22312-1450

Sir:

This Revised Appeal Brief is submitted in response to a Notification of Non-Compliant Appeal Brief mailed on March 24, 2006, for Appeal Brief filed on July 21, 2005. No fee is required to file this compliant Appeal Brief as the fee for filing the original Appeal Brief was paid at submission. However, should any fees be required to file this Compliant Appeal Brief, please charge that fee, as well as any additional required fees, to **IBM Deposit Account No. 50-0563.**

Certificate of Transmission/Mailing

I hereby certify that this correspondence is being facsimile transmitted to the USPTO at 571-273-8300 or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on the date shown below.

Typed or Printed Name: Michelle Sanderson   Date: March 29, 2006   Signature: Michelle Sanderson

---

REAL PARTY IN INTEREST

The real party in interest in the present Application is International Business Machines Corporation, the Assignee of the present application as evidenced by the Assignment set forth at reel 012212, frame 0438 *et. seq.* of the USPTO assignment records.

RELATED APPEALS AND INTERFERENCES

There are no Appeals or Interferences known to Appellant, the Appellant's legal representative, or assignee, which would be directly affected or have a bearing on the Board's decision in the present Appeal.

STATUS OF CLAIMS

Claims 1-20 are cancelled. Claims 21-34, which comprise all pending claims, stand finally rejected by the Examiner as noted in the Advisory Action dated June 8, 2005.

STATUS OF AMENDMENTS

Applicant's Amendment B, submitted subsequent to the Examiner's Final Rejection, was entered by the Examiner upon filing of this Appeal.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Appellant's Claim 21 recites a method for load balancing connections between servers and clients (Specification, page 4, lines 17-20, Figures 4A, 4B, 5-7). Out of a collection of load balancers, a receiving load balancer receives a communication from at least one of a collection of clients. In response to the received communication, a primary load balancer and a backup load balancer corresponding to the received communication is determined (page 4, lines 20-22, Figure 4A). The identity of the primary load balancer and the backup load balancer is stored in each of the collection of load balancers (page 4, lines 20-22, Figure 4A). The received communication is

U.S. App. No. 09/963,737   Page - 2 -   Atty Docket No. FR920000040US1

forwarded from the receiving load balancer to the primary load balancer (page 5, lines 1-5, Figure 4B). In response to determining that the primary load balancer is not available, the received communication is forwarded to the determined backup load balancer (page 5, lines 1-5, Figure 7).

Appellant's Claim 24 recites a system for load balancing connections between servers and clients (Specification, page 4, lines 17-20, Figures 4A, 4B, 5-7). The system for load balancing connections between a plurality of servers and a plurality of clients includes a collection of load balancers (see e.g., load balancers 110, Figure 1), including a receiving load balancer. The receiving load balancer includes means for receiving a communication from at least one of the collection of clients (e.g., TCP connections 130, Figure 1), means for determining a primary load balancer and a backup load balancer for handling said communication (e.g., compute scores 210, Figure 2), means for storing an identity of the primary load balancer and the backup load balancer corresponding to the communication in each of the collection of load balancers (e.g., cache 404, Figure 4A), means for forwarding the communication to the primary load balancer for transmission to at least one of the collection of servers (e.g., LTOC 402, cache 404, Figure 4A), and means for forwarding the communication to the determined backup load balancer for transmission to at least one of the collection of servers, in response to determining the primary load balancer is not available (e.g., LTOC 402, cache 404, Figure 4A).

Appellant's Claim 27 recites a load balancer out of a collection of load balancers for load balancing connections between a collection of servers and a collection of clients (Specification, page 4, lines 17-20, Figures 1-3, 4A). The load balancer includes a means for receiving a communication from at least one of the collection of clients (e.g., TCP connections 130, Figure 1), a means for determining a primary load balancer and a backup load balancer for handing the communication (e.g., compute scores 210, Figure 2), a means for storing an identity of the primary load balancer and the backup load balancer corresponding to the communication in each of the collection of load balancers (e.g., cache 404, Figure 4A), a means for forwarding the communication to the primary load balancer for transmission to at least one of the collection of servers (e.g., LTOC 402, cache 404, Figure 4A), and a means for forwarding the communication

to the determined backup load balancer for transmission to at least one of the collection of servers, in response to determining the primary load balancer is not available (e.g., LTOC 402, cache 404, Figure 4A).

Appellant's Claim 30 recites a computer program product for load balancing connections between servers and clients (Specification, page 4, lines 17-20, Figures 4A, 4B, 5-7). Out of a collection of load balancers, a receiving load balancer receives a communication from at least one of a collection of clients. In response to the received communication, a primary load balancer and a backup load balancer corresponding to the received communication is determined (page 4, lines 20-22, Figure 4A). The identity of the primary load balancer and the backup load balancer is stored in each of the collection of load balancers (page 4, lines 20-22, Figure 4A). The received communication is forwarded from the receiving load balancer to the primary load balancer (page 5, lines 1-5, Figure 4B). In response to determining that the primary load balancer is not available, the received communication is forwarded to the determined backup load balancer (page 5, lines 1-5, Figure 7).

U.S. App. No. 09/963,737   Page - 4 -   Atty Docket No. FR920000040US1

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The Examiner's rejection of Appellants' claims 21-32 under 35 U.S.C. § 102(e) as being anticipated over *Adelman et al.* (U.S. Pat. No. 6,078,957 hereinafter referred to as "*Adelman*") is to be reviewed on Appeal.

ARGUMENT

The rejection of Appellants' claims 21-32 under 35 U.S.C. § 102(e) as being anticipated by *Adelman*:

In Examiner's Final Action, Claims 21-32 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Adelman*. The Examiner's rejection should be reverested because *Adelman* does not teach or suggest each claimed feature.

Regarding exemplary Claim 21, *Adelman* does not teach or suggest

in response to a receiving load balancer . . . receiving a communication . . .
determining a primary load balancer and a backup load balancer for handing said communication;
storing an identity of said primary load balancer and said backup load balancer corresponding to said communication in each of said plurality of load balancers. .

In other words, Claim 21 requires knowledge of the identities of the primary load balancer and the backup load balancer before storing the identities in each of the load balancers. On page 2 of the Advisory Action dated June 8, 2005, Examiner asserts that "*Adelman* teaches this process about receiving the request message that produces a single cluster member acting as the master unit and the other cluster members understanding that they are merely members (which corresponds to the backup unit because it will become a master unit if the existing master is dead or not existing." (col. 6, lines 40-67, col. 7, lines 1-41).

U.S. App. No. 09/963,737   Page - 5 -   Atty Docket No. FR920000040US1

Claim 21 recites "determining a primary load balancer and a backup load balancer for handling said communication", in response to receiving a communication from a client. When the cluster has received a communication from a client, a primary load balancer and a backup load balancer are determined, where *both of their identities are known*. Both of the identities are required to be known in order to enable "storing an identity of said primary load balancer and said backup load balancer corresponding to said communication in each of said plurality of load balancers" (Claim 21).

In contrast, while *Adelman* teaches determining a master unit and the rest of the cluster "understanding that they are merely members", *the identity of the backup unit is not determined until the master unit fails* (col. 6, lines 40-67, col. 7, lines 1-41).
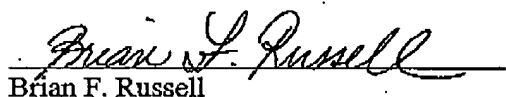
Accordingly, in light of the preceding argument, Applicant believes that independent Claims 21, 24, 27, and 30 and all dependent claims are not anticipated by *Adelman* and are thus not rendered unpatentable.

Also, nothing in *Adelman* teaches or suggests modification of the system or method disclosed in *Adelman*. In fact, *Adelman* discloses a system and method for monitoring "keepalive" and "tiebreaker" messages to determine (1) whether or not the master unit is still active; and (2) which of the cluster members will be the newly-designated master unit once the prior master unit is determined to be inactive. The disclosure of the "keepalive" and "tiebreaker" message monitoring system and method teaches against Appellant's claimed feature of a determining and storing the identification of a primary and backup load balancer in response to received communication. An advantage of a predetermined backup load balancer is that in the event the primary load balancer is unavailable the received communication will be directly transferred to the predetermined backup load balancer without the delay inherent in the system and method disclosed in *Adelman*, where a new master unit must be determined in the event of the original master unit becoming unavailable.

U.S. App. No. 09/963,737   Page - 6 -   Atty Docket No. FR920000040US1

CONCLUSION

Appellants have pointed out with specificity the manifest error in the Examiner's rejections, and the claim language which renders the invention patentable over the combination of references.   Appellants, therefore, respectfully request that this case be remanded to the Examiner with instructions to issue a Notice of Allowance for all pending claims.

Respectfully submitted,

Brian F. Russell
Registration No. 40,796
DILLON & YUDELL LLP
8911 N. Capital of Texas Hwy., Ste 2110
Austin, Texas 78759
(512) 343-6116
ATTORNEY FOR APPELLANT

CLAIMS APPENDIX

1-20.   (cancelled)

21.   A method of load balancing connections between a plurality of servers and a plurality of clients, wherein a plurality of load balancers couple said plurality of servers and said plurality of clients, said method comprising:

        in response to a receiving load balancer out of said plurality of load balancers receiving a communication from at least one of said plurality of clients, determining a primary load balancer and a backup load balancer for handling said communication;

        storing an identity of said primary load balancer and said backup load balancer corresponding to said communication in each of said plurality of load balancers;

        forwarding said communication to said primary load balancer for transmission to at least one of said plurality of servers; and

        in response to determining said primary load balancer is not available, forwarding said communication to said determined backup load balancer for transmission to at least one of said plurality of servers.

22.   The method of Claim 21, wherein said determining further includes:

        calculating a plurality of scores, wherein each of said plurality of scores corresponds to a respective one of said plurality of load balancers;

        ranking said plurality of scores from a highest score to a lowest score;

        designating as said primary load balancer one of said plurality of load balancers corresponding to said highest score; and

        designating as said backup load balancer one of said plurality of load balancers corresponding to a second highest score.

23.   The method of Claim 21, further comprising:

        in response to determining said receiving load balancer is said primary load balancer, transmitting said communication to at least one of said plurality of servers.

U.S. App. No. 09/963,737   Page - 8 -   Atty Docket No. FR920000040US1

24.   A system for load balancing connections between a plurality of servers and a plurality of clients, said system comprising:

a plurality of load balancers, including

a receiving load balancer, further including:

means for receiving a communication from at least one of said plurality of clients;

means for determining said primary load balancer and said backup load balancer for handling said communication;

means for storing an identity of said primary load balancer and said backup load balancer corresponding to said communication in each of said plurality of load balancers;

means for forwarding said communication to said primary load balancer for transmission to at least one of said plurality of servers; and

means for forwarding said communication to said determined backup load balancer for transmission to at least one of said plurality of servers, in response to determining said primary load balancer is not available.

25.   The system of Claim 24, wherein said receiving load balancer further includes:

means for determining said primary load balancer and said backup load balancer for handling said communication by calculating a plurality of scores, wherein each of said plurality of scores corresponds to a respective one of said plurality of load balancers;

means for ranking said plurality of scores from a highest score to a lowest score;

means for designating as said primary load balancer one of said plurality of load balancers corresponding to said highest score; and

means for designating as said backup load balancer one of said plurality of load balancers corresponding to a second highest score.

26.   The system of Claim 24, wherein said receiving load balancer further includes:

means for transmitting said communication to at least one of said plurality of servers, in response to determining said receiving load balancer is said primary load balancer.

U.S. App. No. 09/963,737   Page - 9 -   Atty Docket No. FR920000040US1

PAGE 10/14 * RCVD AT 3/29/2006 6:02:44 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/38 * DNIS:2738300 * CSID:5123436446 * DURATION (mm-ss):04-00

27.   A load balancer out of a plurality of load balancers for load balancing connections between a plurality of servers and a plurality of clients, said load balancer comprising:

means for receiving a communication from at least one of said plurality of clients;

means for determining a primary load balancer and a backup load balancer for handling said communication;

means for storing an identity of said primary load balancer and said backup load balancer corresponding to said communication in each of said plurality of load balancers;

means for forwarding said communication to said primary load balancer for transmission to at least one of said plurality of servers; and

means for forwarding said communication to said determined backup load balancer for transmission to at least one of said plurality of servers, in response to determining said primary load balancer is not available.

28.   The load balancer of Claim 27, further comprising:

means for calculating a plurality of scores, wherein each of said plurality of scores corresponds to a respective one of said plurality of load balancers;

means for ranking said plurality of scores from a highest score to a lowest score;

means for designating as said primary load balancer one of said plurality of load balancers corresponding to said highest score; and

means for designating as said backup load balancer one of said plurality of load balancers corresponding to a second highest score.

29.   The load balancer of Claim 27, further comprising:

means for transmitting said communication to at least one of said plurality of servers, in response to determining said load balancer is said primary load balancer.

30.   A computer program product for load balancing connections between a plurality of servers and a plurality of clients, wherein a plurality of load balancers couple said plurality of servers and said plurality of clients, said computer program product comprising:

instructions, stored on computer-readable media, for determining a primary load balancer and a backup load balancer for handling said communication, in response to a receiving load

U.S. App. No. 09/963,737   Page - 10 -   Atty Docket No. FR920000040US1

balancer out of said plurality of load balancers receiving a communication from at least one of said plurality of clients;

instructions, stored on computer-readable media, for storing an identity of said primary load balancer and said backup load balancer corresponding to said communication in each of said plurality of load balancers;

instructions, stored on computer-readable media, for forwarding said communication to said primary load balancer for transmission to at least one of said plurality of servers; and

instructions, stored on computer-readable media, for forwarding said communication to said determined backup load balancer for transmission to at least one of said plurality of servers, in response to determining said primary load balancer is not available.

31.   The computer program product of Claim 30, further comprising:

instructions, stored on computer-readable media, for calculating a plurality of scores, wherein each of said plurality of scores corresponds to a respective one of said plurality of load balancers;

instructions, stored on computer-readable media, for ranking said plurality of scores from a highest score to a lowest score;

instructions, stored on computer-readable media, for designating as said primary load balancer one of said plurality of load balancers corresponding to said highest score; and

instructions, stored on computer-readable media, for designating as said backup load balancer one of said plurality of load balancers corresponding to a second highest score.

32.   The computer program product of Claim 30, further comprising:

instructions, stored on computer-readable media, for transmitting said communication to at least one of said plurality of servers, in response to determining said receiving load balancer is said primary load balancer.

U.S. App. No. 09/963,737   Page - 11 -   Atty Docket No. FR920000040US1

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None

U.S. App. No. 09/963,737   Page - 13 -   Atty Docket No. FR920000040US1